



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R03-OAR-2021-0727; FRL-9552-01-R3]

Approval and Promulgation of Air Quality Implementation Plans; District of Columbia, Maryland, and Virginia; 2017 Base Year Emissions Inventories for the Washington, DC-MD-VA Nonattainment Area for the 2015 Ozone National Ambient Air Quality Standard

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve state implementation plan (SIP) revisions submitted by the District of Columbia (DC), State of Maryland (MD), and Commonwealth of Virginia (VA) (collectively, the States). This revision consists of the base year inventory for the Washington, DC-MD-VA nonattainment area (the DC Area) for the 2015 ozone national ambient air quality standards (NAAQS). This action is being taken under the Clean Air Act (CAA).

DATES: Written comments must be received on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R03-OAR-2021-0727 at <https://www.regulations.gov>, or via email to Gordon.Mike@epa.gov. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. For either manner of submission, EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will

generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **For Further Information Contact** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT: Michael O'Shea, Planning & Implementation Branch (3AD30), Air & Radiation Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103. The telephone number is (215) 814-2064. Dr. O'Shea can also be reached via electronic mail at OShea.Michael@epa.gov.

SUPPLEMENTARY INFORMATION: On October 7, 2020, the Maryland Department of the Environment (MDE) submitted a revision to the Maryland SIP entitled, "SIP - 20-04 2017 Base Year Inventory for the Washington, DC-MD-VA 2015 Ozone NAAQS Nonattainment Area." This revision is referred to as the "MD submittal" in this rulemaking. On November 4, 2020, the District of Columbia Department of Energy and Environment (DOEE), submitted a revision to the DC SIP entitled, "DC 2015 Ozone NAAQS Attainment Plan Base Year Inventory." This revision is referred to as the "DC submittal" in this rulemaking. On December 11, 2020, the Virginia Department of Environmental Quality (VADEQ) submitted a revision to the Virginia SIP entitled, "8-Hour Ozone (2015 Standard) - Washington Attainment Plan 'VA_2017O3BYEI_12112020.'" This revision is referred to as the "VA submittal" in this rulemaking. These individual SIPs were collaboratively developed by DOEE, MDE, VADEQ, and the Metropolitan Washington Council of Government (MWCOG). The individual state SIP revisions, referred to collectively in this rulemaking action as the "DC Area base year inventory SIPs," address the base year inventory requirement for the DC Area for the 2015 ozone NAAQS. The individual state SIP submissions, including their appendices, are included in the docket for

this rulemaking and are available online at <https://www.regulations.gov>, Docket ID: EPA-R03-OAR-2021-0727.

I. Background

On October 1, 2015, EPA strengthened the 8-hour ozone NAAQS, lowering the level of the NAAQS from 0.075 ppm parts per million (ppm) to 0.070 ppm. 80 FR 65292 (October 26, 2015). Effective August 3, 2018, EPA designated the following jurisdictions in the DC Area as marginal nonattainment for the 2015 ozone NAAQS: District of Columbia; Calvert, Charles, Frederick, Montgomery, and Prince George's Counties in MD; and Arlington, Fairfax, Loudoun, and Prince William Counties and Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park Cities in VA. 83 FR 25776 (June 4, 2018). CAA section 182(a)(1) requires ozone nonattainment areas classified as marginal or above to submit a comprehensive, accurate, current inventory of actual emissions from all emissions sources in the nonattainment area, known as a "base year inventory." The DC Area base year inventory SIPs addresses a base year inventory requirement for the DC Area.

II. Summary of SIP Revision and EPA Analysis

A. EPA's Evaluation of the DC Area Base Year Inventory SIPs

EPA's review of the DC Area base year inventory SIPs indicate that they meet the base year inventory requirements for the 2015 ozone NAAQS. EPA prepared a Technical Support Document (TSD) for each state's submittal in support of this rulemaking. In those TSDs, EPA reviewed the results, procedures, and methodologies for the SIP base year, and found them to be acceptable and developed in accordance with EPA's technical guidance. EPA's TSDs for the individual state SIPs are available online at <http://www.regulations.gov>, Docket ID No. EPA-R03-OAR-2021-0727.

B. Base Year Inventory Requirements

In EPA's December 6, 2018 rule, "Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements,"

known as the “SIP Requirements Rule,” EPA set out nonattainment area requirements for the 2015 ozone NAAQS. (83 FR 62998). The SIP Requirements Rule established base year inventory requirements, which were codified at 40 Code of Federal Regulations (CFR) 51.1315. As required by 40 CFR 51.1315(a), each 2015 ozone nonattainment area must submit a base year inventory within 2 years of designation.

Also, 40 CFR 51.1315(a) requires that the inventory year be selected consistent with the baseline year for the reasonable further progress (RFP) plan as required by 40 CFR 51.1310(b), which states that the baseline emissions inventory shall be the emissions inventory for the most recent calendar year for which a complete triennial inventory is required to be submitted to EPA under the provisions of subpart A of 40 CFR part 51, Air Emissions Reporting Requirements, 40 CFR 51.1 through 50. The most recent triennial inventory year conducted for the National Emissions Inventory (NEI) pursuant to the Air Emissions Reporting Requirements (AERR) rule is 2017. 73 FR 76539 (December 17, 2008). The States selected 2017 as their baseline emissions inventory year for RFP. This selection comports with EPA’s implementation regulations for the 2015 ozone NAAQS because 2017 is the inventory year. 40 CFR 51.1310(b).¹

Further, 40 CFR 51.1315(c) requires emissions values included in the base year inventory to be actual ozone season day emissions as defined by 40 CFR 51.1300(q), which states: Ozone season day emissions means an average day’s emissions for a typical ozone season work weekday. The state shall select, subject to EPA approval, the particular month(s) in the ozone season and the day(s) in the work week to be represented, considering the conditions assumed in the development of RFP plans and/or emissions budgets for transportation conformity. The States included actual ozone season day emissions, pursuant to 40 CFR 51.1315(c).

¹ On January 29, 2021, the Court of Appeals for the D.C. Circuit issued its decision regarding multiple challenges to EPA’s implementation rule for the 2015 ozone NAAQS which included, among other things, upholding this provision allowing states to use an alternative baseline year for RFP. *Sierra Club v. EPA*, No. 15-1465 (D.C. Cir.). The other provisions of EPA’s ozone implantation rule at issue in the case are not relevant for this rulemaking.

C. DC Area Base Year Inventory SIPs

The DC Area base year inventory SIPs, contain an explanation of each State's 2017 base year emissions inventory for stationary, non-point, non-road, and on-road anthropogenic sources, as well as biogenic sources, in the DC Area. The States estimated anthropogenic emissions for volatile organic compound (VOC), nitrogen oxide (NO_x), and carbon monoxide (CO) for a typical ozone season work weekday. As identified above, the DC Area base year inventory SIPs were developed collaboratively. As such, their 2017 base year emissions inventory are almost identical and, therefore, will be referred to collectively as the "2017 DC Area BYEI" in the remainder of this rulemaking, unless otherwise noted because individual distinctions are necessary.²

The States developed the 2017 DC Area BYEI with the following source categories of anthropogenic emissions sources: point, quasi-point, non-point, non-road model, on-road, and commercial marine vessels, airport, and railroad (MAR) emissions sources, in addition to biogenic total sources. The 2017 DC Area BYEI sets out the methodologies the States used to develop their base year inventory for each source listed. Those methodologies are explained in further depth within appendices A-D of each state's submission. Data justifying the inventories are also provided within appendices A-D of each state's submission. Note, however, that Virginia only included appendix items relevant to their own state but uploaded files jointly with DC for the full inventory development. Furthermore, the MD submittal was earliest and, as such, contains data, development, and guidance that precedes the widespread adoption of the 2017 NEI. This timing differential accounts for the differences in the MD submittal as compared to the DC and VA submittals. For simplicity purposes, the appendices will be referred to as the State's appendices.

1. Point Sources

² The 2017 DC Area BYEI submitted by each individual state is found as follows: DC submittal - Appendix BY2017_EI_Document_October_30_2020_FINAL; MD submittal - Appendix 2. Wash Region 2015 NAAQS BY Inventory SIP; and VA submittal - Appendix NVA-INV-SIP-1.

Point sources are larger sources that are located at a fixed, stationary location. As defined by the AERR in 40 CFR 51.50, point sources are large, stationary (non-mobile), identifiable sources of emissions that release pollutants into the atmosphere. A point source is a facility that is a major source under 40 CFR part 70 for one or more of the pollutants for which reporting is required by 40 CFR 51.15(a)(1). Examples of point source emissions categories include power plants, industrial boilers, petroleum refineries, cement plants, and other industrial plants.

As stated in the State's 2017 DC Area BYEI, the State's air agencies (DOEE, MDE, VADEQ), maintain substantial databases of both small and large air emission sources. Point sources in the inventory generally related to facilities contained within the EPA's Emissions Inventory System (EIS). From the EIS, NEI point source estimates are created. Common types of facilities included are large industrial or commercial complexes including municipal waste combustors, electric generating stations, governmental organizations, and manufacturing facilities. The methods used to convert annual emissions to ozone season work weekday emissions are described in the State's appendices: for DC emissions - Appendix A1a,^{3,4} for MD emissions – Appendix B1b,^{5,6} and for VA emissions – Appendix A1b.^{7,8,9} The States keep records of point sources and emissions and these records maintained by the respective state air agency where the facilities or sources are located. The emissions data for the DC area are housed in the State's appendices: for DC emissions – Appendix A2a,^{10,11} for MD emissions –

³Appendix A1a – Point Source Inventory Development Overview (District of Columbia), DC submittal.

⁴Appendix A1a – Point Source Inventory Development Overview (District of Columbia), MD submittal.

⁵Appendix B1b – Point, Quasi-Point, Nonpoint and Marine/Air/Rail Inventory Development Overview (Maryland), DC submittal.

⁶Appendix B1b – Point, Quasi-Point, Nonpoint and Marine/Air/Rail Inventory Development Overview (Maryland), MD Submittal.

⁷Appendix A1b – Point Source Inventory Development Overview (Virginia), DC submittal.

⁸Appendix A1b – Point Source Inventory Development Overview (Virginia), MD submittal.

⁹Appendix A1b – Point Source Inventory Development Overview (Virginia), VA submittal.

¹⁰Appendix A2a – Point Source Inventory Files (District of Columbia), DC submittal.

¹¹Appendix A2a – Point Source Inventory Files (District of Columbia), MD submittal.

Appendix B2b,^{12,13} and for VA – Appendix A2b.^{14,15,16}

As stated in the State’s Appendix A1a, DOEE recorded data for all the point, unit, stack, and process sources submitted to the EPA for the 2017 NEI. DOEE also provided their point source inventory with NO_x, VOC, and CO in tons. Ozone Season Day (OSD) emissions calculations were also justified by DOEE. See the State’s Appendix A1a for additional details on methodology; see also EPA’s DC TSD.¹⁷

As seen in the State’s Appendix B1b, the MDE Air and Radiation Administration (ARA) compiled the point source emissions inventory. They identified sources, documented the methods for calculations, and presented findings. MDE has a substantial database of air emissions sources and permitting, and its compliance programs also played a major role in their investigation. They provided full point source data in the State’s Appendix B2b for CO, NO_x, and VOC and provided justification for OSD calculations. See the State’s Appendix B1b for additional details on methodology; see also EPA’s MD TSD.¹⁸

In the State’s Appendix A1b, Virginia noted that they keep a detailed database for point sources called the *Comprehensive Environmental Database System* (CEDS). As noted above, emissions data for facilities can include emission tests, Title V reports, compliance reports and other documents mentioned in the State’s Appendix A1b and documented in Appendix A2b. The VADEQ staff attested to reviewing the data and uploading information required for AERR to be included for the 2017 NEI. They provided full point sources data for NO_x, VOC, and CO, typically in tons and provided justification for OSD emissions. See the State’s Appendix A1b for additional details on methodology; see also EPA’s VA TSD.¹⁹

2. Quasi-Point Sources

¹² Appendix B2b – Point, Quasi-Point, Nonpoint and Marine/Air/Rail Inventory Files (Maryland), DC submittal.

¹³ Appendix B2b – Point, Quasi-Point, Nonpoint and Marine/Air/Rail Inventory Files (Maryland), MD submittal.

¹⁴ Appendix A2b – Point Source Inventory Files (Virginia), DC submittal.

¹⁵ Appendix A2b – Point Source Inventory Files (Virginia), MD submittal.

¹⁶ Appendix A2b – Point Source Inventory Files (Virginia), VA submittal.

¹⁷ EPA’s DC TSD for the 2017 Base Year Inventory for the DC Area.

¹⁸ EPA’s MD TSD for the 2017 Base Year Inventory for the DC Area.

¹⁹ EPA’s VA TSD for the 2017 Base Year Inventory for the DC Area.

The only quasi-point source in the DC area, Andrews Air Force Base (Joint Base Andrews – JBA), is located in Prince George’s County, MD. MDE identified facilities at this location that due to size or function are considered point sources. In the State’s Appendix B1b, MDE notes that these establishments include a wide variety of air emissions sources, including point sources, on-road mobile sources, off-road mobile sources, and area sources.

For Joint Base Andrews, the emissions from the other source categories at the facility are totaled under a single point source and considered by MDE as being a quasi-point source. As noted in the EPA’s MD TSD, for each of these quasi-point sources, emissions for each source category at the facility were calculated separately to find the ozone season day emissions, and then totaled together to get a facility wide emission for each pollutant. Data outlining quasi-point sources are provided in the State’s Appendix B2b. EPA has reviewed the source categories included in the quasi-point sources and has found this to be a reasonable approach to handle these sources.

3. Non-Point Sources

Non-point sources are also called “area sources.” These sources collectively represent individual sources of emissions that have not been inventoried as specific point or mobile sources. These individual sources treated collectively as non-point sources are typically too small, numerous, or difficult to inventory using the methods for the other classes of sources. As noted in the 2017 DC Area BYEI, for example, small fossil fuel fired boilers used for comfort purposes located at residential, commercial, and governmental locations fall into this category. The non-point category is broad and diverse, and the emissions calculations used in this category vary and the category has many subsectors. State air agencies provided details for developing emissions for nonpoint sources in the State’s appendices: for DC emissions - Appendix B1a,^{20,21}

²⁰ Appendix B1a - Nonpoint and Marine/Air/Rail Inventory Development Overview (District of Columbia), DC submittal.

²¹ Appendix B1a - Nonpoint and Marine/Air/Rail Inventory Development Overview (District of Columbia), MD submittal.

for MD emissions – Appendix B1b, and for VA emissions – Appendix B1c (VA).^{22,23,24} Note that stage II refueling emissions were developed by the National Capital Region Transportation Planning Board (TSB) at MWCOG in association with staff and State’s air agencies using the Motor Vehicle Emissions Simulator (MOVES)2014b model. See the State’s Appendix D1^{25,26,27} for details on development of on-road emissions.

As noted in EPA’s MD TSD, nonpoint emissions are typically calculated on an annual basis by multiplying an emission factor by some known indicator of collective activity for each source category at the county level. For the 2017 DC Area BYEI, DOEE calculated the ozone season day emissions by applying a seasonal adjustment factor, provided by MDE, and supplemented by DOEE, to their emission estimates. See the State’s Appendix B1a for calculations. In the State’s Appendix B2a,^{28,29} nonpoint sector categories in the District’s emissions inventory were catalogued, including contributions to the 2017 NEI. NO_x, VOC, and CO data were provided in tons, and both annual and ozone season totals were included.

MDE, as indicated above, applied a seasonal adjustment factor to their emissions estimates. As noted in EPA’s MD TSD, a detailed explanation of how MDE calculated each nonpoint source category can be found in Section 4 – Area Sources of the State’s Appendix B1b. Emissions were provided annually and by ozone season day for each nonpoint source category code (SCC) for NO_x, VOC, and CO. Full data is provided in the State’s Appendix B2b.

For Virginia, a detailed explanation of the non-point inventory is provided in the State’s Appendix B1c. As they note, staff from the VADEQ compiled Northern Virginia 2017 annual and ozone season daily emissions estimate from the EPA 2017 NEI. In the State’s Appendix

²² Appendix B1c – Virginia Nonpoint and Marine/Air/Rail Inventory Development Overview, DC submittal.

²³ Appendix B1c – Nonpoint and Marine/Air/Rail Inventory Development Overview (Virginia), MD submittal.

²⁴ Appendix B1c – Virginia Nonpoint and Marine/Air/Rail Inventory Development Overview, VA submittal.

²⁵ Appendix D1 – On-road Mobile Source Inventory Development Overview, DC submittal.

²⁶ Appendix D1 – On-road Mobile Source Inventory Development Overview, MD submittal.

²⁷ Appendix D1 – On-road Mobile Source Inventory Development Overview, VA submittal.

²⁸ Appendix B2a – Nonpoint and Marine/Air/Rail Inventory Files (District of Columbia), DC submittal.

²⁹ Appendix B2a – Nonpoint and Marine/Air/Rail Inventory Files (District of Columbia), MD submittal.

B2c,^{30,31,32} VADEQ outlines sample calculations for their nonpoint and MAR emissions for each pollutant. In the State's Appendix B2c, activity level data, emission factor, control factors, fuel loading factors, and others are provided in addition to raw data for OSD. Virginia followed MDE's guidance for calculating OSD and provided examples of their calculations in the State's Appendix B1c. Data for NO_x, VOC and CO were provided in OSD and annually.

4. Non-Road Model Mobile Sources

Non-road mobile sources are also called "off-highway" mobile sources. These are defined as a non-road engine or non-road vehicle. As per 40 CFR 51.50, a non-road engine is an internal combustion engine (including the fuel system) that is not used in an on-road motor vehicle or a vehicle used solely for competition, or that is not affected by sections 111 or 202 of the CAA. Also defined by 40 CFR 51.50, a non-road vehicle (rather than engine) is a vehicle that is run by a non-road engine and that is not an on-road motor vehicle or a vehicle used solely for competition. Examples of non-road mobile sources include airport ground support equipment, agricultural and construction equipment powered by an internal combustion engine, and lawn and garden engines and equipment.

As explained in the 2017 DC Area BYEI, the inventory for nonroad mobile sources, and some MAR sources, for VOC, NO_x, and CO were calculated using the EPA's MOVES2014 model. This model includes 88 types of nonroad equipment and 12 economic sectors. The sectors are:

- Recreational sector equipment, such as all-terrain vehicles and off-road motorcycles;
- Construction sector equipment, such as graders and backhoes;
- Industrial sector equipment, such as forklifts and sweepers;
- Lawn and garden sector equipment, such as leaf and snow blowers;
- Agricultural sector equipment, such as tractors;

³⁰ Appendix B2c – Nonpoint and Marine/Air/Rail Inventory Files (Virginia), DC submittal.

³¹ Appendix B2c – Nonpoint and Marine/Air/Rail Inventory Files (Virginia), MD submittal.

³² Appendix B2c – Nonpoint and Marine/Air/Rail Inventory Files (Virginia), VA submittal.

- Commercial sector equipment, such as compressors;
- Logging sector equipment, such as chain saws;
- Airport support sector equipment, such as airport ground support equipment;
- Underground mining sector equipment, such as, mining equipment;
- Oil field sector equipment, such as oil field equipment;
- Pleasure craft sector equipment, such as personal watercraft; and
- Railroad sector equipment, such as railway maintenance equipment

As noted in the 2017 DC Area BYEI, the MOVES2014b model estimates emissions for each specific type of nonroad equipment by multiplying the following input data estimates:

- Equipment population for the base year, distributed by age, power, fuel type, and application;
- Average load factor expressed as average fraction of available power;
- Available power in horsepower;
- Activity in hours of use per year; and
- Emission factors reflecting deterioration and/or new standards.

The emissions are then temporally allocated using appropriate allocation factors. All emissions sources are included for DC and Maryland. However, railway maintenance and airport ground support equipment were not included for Virginia. Instead, Virginia provided emissions for these sources from the 2017 NEI effort. See the State's Appendix D1 for details and Appendix C^{33,34,35,36} for MOVES2014b nonroad model input, output, and runspec files.

5. Marine Vessels, Airport, Railroad Locomotives Sources

Marine Vessels, Airport, Railroad Locomotives (MAR) is a non-road sub-category.

Detailed documentation for the development of MAR sources were given by the States air agencies, as noted in the 2017 DC Area BYEI. As above, MAR guidance overviews are in the

³³Appendix C – MOVES 2014b (Nonroad Mobile Model) Input and Output Files, DC Submittal.

³⁴Appendix C – MOVES 2014b (Nonroad Mobile Model) Input and Output Files, MD Submittal.

³⁵Appendix C – MOVES 2014b (Nonroad Mobile Model) Input and Output Files, VA Submittal.

³⁶Appendix C – MOVES 2014b, which is included in each State's submission, is a large datafile. It is described in a memo for this rulemaking. This file itself is not available on regulation.gov but can be provided upon request.

State's appendices: for DC emissions – Appendix B1a, for MD emissions – Appendix B1b, and for VA emissions – Appendix B1c. The MAR data is listed in the State's appendices: for DC emissions - Appendix B2a, for MD emissions – Appendix B2b, and for VA emissions – Appendix B2c.

For DC, railway maintenance emissions were developed using the MOVES2014b model. DC provided airport emissions from the 2017 NEI and the facilities in DC's airport inventory. The district also provided details on their OSD calculations for all MAR sources in the State's Appendix B1a with some information in the 2017 DC Area BYEI.

MDE relied on the MOVES2014b model for railways maintenance and airport ground support equipment using the above model. MDE calculated emissions by collecting data directly from surveyed sources, or activity from state and Federal reporting agencies. Details of the development of emissions for MAR sources along with other non-road model sources and their OSD approach are provided in the State's Appendix B1b with some information in the 2017 DC Area BYEI.

For Virginia, the 2017 NEI was used for all emissions calculations including for railway maintenance and airport ground support equipment. Sample calculations were provided in the State's Appendix B1c by the VADEQ for annual emissions estimates for all sources. The state also outlined their approach for OSD calculations in the State's Appendix B1c.

6. On-Road Mobile Sources

On-road mobile sources are also called “highway mobile sources.” These sources are the motor vehicles (e.g., automobiles, buses, trucks) traveling on local and highway roads. On-road mobile sources should be estimated by the latest recommended on-road mobile source models. Currently, that means EPA's MOVES model for all states but California.

In addition to emissions from vehicles' exhaust, the MOVES model estimates evaporative emissions for mobile sources, which must be included in the inventory. Volatile hydrocarbons evaporate from the fuel system while a vehicle is refueling, parked, or driving.

Evaporative processes differ from exhaust emissions because they don't directly involve combustion, which is the main process driving exhaust emissions.

As stated in the State's Appendix D1 and in the 2017 DC Area BYEI, the TSB was responsible for developing the on-road mobile sources emissions using information, such as meteorological inputs from Metropolitan Washington Air Quality Committee (MWAQC) and fuel, inspection and maintenance program information from state air agencies. EPA's MOVES2014b model was selected to estimate the 2017 DC Area BYEI on-road emissions inventories for the 2015 ozone national ambient air quality standard emissions from on-road mobile sources in the DC area. The emissions results were reviewed by MWAQC staff and approved and incorporated into the 2017 inventories. The On-Road MOVES2014b input and output files are in the State's Appendix D2.^{37,38,39,40}

As noted in the State's Appendix D1, first, TSB's adopted travel demand model was used to estimate vehicle miles of travel (VMT) at the network link level of analysis. The modeled VMT outputs were developed at the network link level by vehicle type and by four time-of-day periods. Next, a post processor was used to further refine link-level VMT and link speeds into vehicle-hours of travel (VHT) by facility type, hourly periods, and speed bins. Finally, several data preparation steps were undertaken before MOVES was executed. Again, an overview of the process is presented in the State's Appendix D1. Lastly, the MOVES model was executed to calculate base year emissions.

Overall, the MOVES model considered factors such as vehicle type, facility type, VMT/VHT fractions, observed and simulated VMT, speed distributions, road type, age of cars, fuel formation, meteorological data, ramp fraction, road type distribution (for VMT), source (vehicle) type population, inspection/maintenance programs, hoteling (idling), and source type

³⁷ Appendix D2 – MOVES 2014b (Onroad Mobile Model) Input and Output Files, DC submittal.

³⁸ Appendix D2 – MOVES 2014b (Onroad Mobile Model) Input and Output Files, MD submittal.

³⁹ Appendix D2 – MOVES 2014b (Onroad Mobile Model) Input and Output Files, VA submittal.

⁴⁰ Appendix D2 – MOVES 2014b, which is included in each State's submission, is a large datafile. It is described in a memo for this rulemaking. The file itself is not available on regulations.gov but can be provided upon request.

programs by state. All factors are outlined in detail in the State's Appendix D1. The on-road mobile emissions analysis process is very similar to the one used during the development of previous base year inventories.

EPA has reviewed the results, procedures, and methodologies utilized by the States to determine anthropogenic emissions for the DC Area for the SIP base year, as well as comparing the inventory with previously verified data in EPA's 2017 NEI for any data discrepancies and found none. EPA has therefore determined the base year inventory to be acceptable and developed in accordance with EPA's technical guidance.

7. Biogenic Emissions

The States also outlined biogenic emissions, which are not included in the anthropogenic total. Biogenic emissions come from natural sources, including vegetation and soils. In the 2017 DC Area BYEI, the States explain that the 2014 NEI estimates by EPA were accepted for purposes of the base year 2017 biogenic inventories. These methods are acceptable under EPA's emission inventory guidance.⁴¹

8. Emissions Summary

The State's 2017 DC Area BYEI contain a summary of 2017 ozone season day emissions by source category, which are presented in Table 1 of this document. Note, for each state, the information they provided for themselves was utilized. Where differences in the submitted data exists, the latest submission, the VA submittal, was used. The differences in reported data between the DC, MD, and VA submittals all relate to the timing of the submissions and the date when the 2017 NEI was adopted. The MD submittal was first, and its development preceded the adoption of the 2017 NEI. The DC and VA submittals were submitted after the widespread adoption of the 2017 NEI and considered the 2017 NEI data. The differences in the data between the MD submittal and the DC and VA submittals has been described in the above

⁴¹EPA's Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations - https://www.epa.gov/sites/default/files/2017-07/documents/ei_guidance_may_2017_final_rev.pdf

sections. Tables 2 through 7 of this document present the State's 2017 DC Area BYEI by source category and county. In the State's 2017 DC Area BYEI, the States demonstrate that the biogenic emissions in Table 1 of this document are taken from EPA's 2014 NEI database. As noted in the State's 2017 DC Area BYEI, total biogenic emissions for July 2014 were divided by 31 days to develop average ozone season day emissions for each jurisdiction in the DC Area and then added together to develop the DC Area total.

Table 1. 2017 DC Area BYEI Summary (tons per ozone season day)

Source Category	VOC	NO _x	CO
Point	5.19	79.55	25.13
Quasi-Point	0.39	0.19	0.28
Non-Point	127.88	23.22	74.27
Non-Road Model	37.68	30.87	710.87
MAR	2.05	11.09	19.26
On-Road	49.58	93.42	673.21
Anthropogenic Total	222.76	238.34	1,503.02
Biogenic	442.62	3.67	38.23

Table 2. 2017 DC Area BYEI Point Source Emissions (tons per ozone season day)

Jurisdiction	VOC	NO _x	CO
District of Columbia	0.17	0.78	0.52
Calvert County	0.11	2.66	0.88
Charles County	0.32	6.47	2.19
Frederick County	0.76	1.75	1.73
Montgomery County	0.33	13.85	4.32
Prince George's County	0.99	24.68	5.43
Maryland Total	2.51	49.41	14.55
Arlington County	0.02	0.25	0.13
Fairfax County	0.81	10.39	4.04
Fairfax City	0.30	0.01	0.02
Falls Church City			
Loudoun County	0.71	10.44	3.32
Prince William County	0.52	6.36	2.07
Manassas City	0.13	0.54	0.25
Manassas Park City			
Alexandria City	0.02	1.37	0.23
Virginia Total	2.51	29.36	10.06
Region Total	5.19	79.55	25.13

Note: There are no point source VOC, NO_x, and CO emissions for the Virginia Independent Cities of Falls Church and Manassas Park.

Table 3. 2017 DC Area BYEI Quasi-Point Source Emissions (tons per ozone season day)

Jurisdiction	VOC	NO _x	CO
Prince George's County	0.39	0.19	0.28
Maryland Total	0.39	0.19	0.28

Region Total	0.39	0.19	0.28
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Note: Quasi-point sources only exist in the Prince George's County, Maryland. Emissions for these sources were provided by MDE.

Table 4. 2017 DC BYE Non-Point Source Emissions (tons per ozone season day)

Jurisdiction	VOC	NOx	CO
District of Columbia	9.61	2.24	2.29
Calvert County	2.33	0.24	3.31
Charles County	4.42	1.05	9.77
Frederick County	7.18	1.27	10.13
Montgomery County	22.70	4.14	4.32
Prince George's County	21.28	3.30	5.84
Maryland Total	57.90	10.00	33.36
Arlington County	4.87	0.88	1.12
Fairfax County	25.96	4.74	7.43
Fairfax City	0.88	0.21	0.34
Falls Church City	0.41	0.09	0.15
Loudoun County	10.56	2.21	15.01
Prince William County	12.36	1.76	12.87
Manassas City	1.18	0.32	0.62
Manassas Park City	0.79	0.11	0.18
Alexandria City	3.35	0.65	0.89
Virginia Total	60.36	10.98	38.62
Region Total	127.88	23.22	74.27

Note: Small discrepancies may result due to rounding.

Table 5. 2017 DC Area BYEI Non-Road Model Source Emissions (tons per ozone season day)

Jurisdiction	VOC	NOx	CO
District of Columbia	1.37	2.06	24.61
Calvert County	0.96	0.58	8.73
Charles County	1.44	1.01	13.78
Frederick County	2.26	1.71	43.10
Montgomery County	8.37	4.63	163.04
Prince George's County	4.81	3.66	92.61
Maryland Total	17.84	11.59	321.26
Arlington County	0.75	2.32	15.73
Fairfax County	9.17	6.48	181.48
Fairfax City	0.32	0.12	6.62
Falls Church City	0.19	0.07	3.86
Loudoun County	4.33	4.74	86.35
Prince William County	2.73	3.07	50.92
Manassas City	0.13	0.10	2.87
Manassas Park City	0.18	0.06	3.63
Alexandria City	0.67	0.26	13.54
Virginia Total	18.47	17.22	365.00
Region Total	37.68	30.87	710.87

Note: Small discrepancies may result due to rounding.

Table 6. 2017 DC Area BYEI MAR Emissions (tons per ozone season day)

Jurisdiction	VOC	NOx	CO
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District of Columbia	0.13	1.34	0.35
Calvert County	0.05	0.86	0.14
Charles County	0.02	0.02	0.19
Frederick County	0.16	0.84	1.58
Montgomery County	0.05	0.73	0.75
Prince George's County	0.04	0.52	0.52
Maryland Total	0.33	2.96	3.17
Arlington County	0.76	2.38	6.77
Fairfax County	0.03	0.58	0.15
Fairfax City	0.00	0.00	0.00
Falls Church City	0.00	0.00	0.00
Loudoun County	0.72	2.93	7.98
Prince William County	0.02	0.52	0.13
Manassas City	0.03	0.06	0.64
Manassas Park City	0.00	0.00	0.00
Alexandria City	0.01	0.31	0.07
Virginia Total	1.59	6.78	15.75
Region Total	2.05	11.09	19.26

Note: The cities of Fairfax and Falls Church, located within the Commonwealth of Virginia, did not have any 2017 emissions from the MAR category. Small discrepancies may result due to rounding.

Table 7. 2017 DC Area BYEI On-road Source Emissions (tons per ozone season day)

Jurisdiction	VOC	NO_x	CO
District of Columbia	3.76	5.63	54.94
Calvert County	1.28	1.81	11.70
Charles County	1.95	3.44	19.05
Frederick County	3.81	9.98	53.15
Montgomery County	8.97	15.78	119.59
Prince George's County	9.36	20.28	135.40
Maryland Total	25.37	51.29	338.89
Arlington County	1.51	1.92	21.97
Fairfax County	10.11	18.41	145.37
Fairfax City			
Falls Church City			
Loudoun County	3.10	6.32	41.28
Prince William County	4.55	8.45	57.69
Manassas City			
Manassas Park City			
Alexandria City	1.18	1.40	13.07
Virginia Total	20.45	36.50	279.38
Region Total	49.58	93.42	673.21

Note: Fairfax County emissions include on-road emissions from Fairfax City and Falls Church City. Prince William County emissions include on-road emissions from Manassas City and Manassas Park City. Small discrepancies may result due to rounding.

III. Proposed Action

EPA's review of the material included in their submissions indicates that the States base year inventory SIPs meet the base year inventory requirement for the 2015 ozone NAAQS for

the DC Area. Therefore, EPA is proposing to approve the DC Area base year inventory SIPs, which were submitted by Maryland on October 7, 2020; the District of Columbia on November 4, 2020; and Virginia on December 11, 2020. EPA is soliciting public comments on the issues discussed in these documents. These comments will be considered before taking final action.

IV. General Information Pertaining to SIP Submittals from the Commonwealth of Virginia

In 1995, Virginia adopted legislation that provides, subject to certain conditions, for an environmental assessment (audit) “privilege” for voluntary compliance evaluations performed by a regulated entity. The legislation further addresses the relative burden of proof for parties either asserting the privilege or seeking disclosure of documents for which the privilege is claimed. Virginia’s legislation also provides, subject to certain conditions, for a penalty waiver for violations of environmental laws when a regulated entity discovers such violations pursuant to a voluntary compliance evaluation and voluntarily discloses such violations to the Commonwealth and takes prompt and appropriate measures to remedy the violations. Virginia’s Voluntary Environmental Assessment Privilege Law, Va. Code Sec. 10.1-1198, provides a privilege that protects from disclosure documents and information about the content of those documents that are the product of a voluntary environmental assessment. The Privilege Law does not extend to documents or information that: (1) are generated or developed before the commencement of a voluntary environmental assessment; (2) are prepared independently of the assessment process; (3) demonstrate a clear, imminent and substantial danger to the public health or environment; or (4) are required by law.

On January 12, 1998, the Commonwealth of Virginia Office of the Attorney General provided a legal opinion that states that the Privilege Law, Va. Code § 10.1-1198, precludes granting a privilege to documents and information “required by law,” including documents and information “required by Federal law to maintain program delegation, authorization or approval,” since Virginia must “enforce Federally authorized environmental programs in a

manner that is no less stringent than their Federal counterparts” The opinion concludes that “[r]egarding § 10.1-1198, therefore, documents or other information needed for civil or criminal enforcement under one of these programs could not be privileged because such documents and information are essential to pursuing enforcement in a manner required by Federal law to maintain program delegation, authorization or approval.” Virginia’s Immunity law, Va. Code Sec. 10.1-1199, provides that “[t]o the extent consistent with requirements imposed by Federal law,” any person making a voluntary disclosure of information to a state agency regarding a violation of an environmental statute, regulation, permit, or administrative order is granted immunity from administrative or civil penalty. The Attorney General’s January 12, 1998, opinion states that the quoted language renders this statute inapplicable to enforcement of any Federally authorized programs, since “no immunity could be afforded from administrative, civil, or criminal penalties because granting such immunity would not be consistent with Federal law, which is one of the criteria for immunity.”

Therefore, EPA has determined that Virginia’s Privilege and Immunity statutes will not preclude the Commonwealth from enforcing its program consistent with the Federal requirements. In any event, because EPA has also determined that a state audit privilege and immunity law can affect only state enforcement and cannot have any impact on Federal enforcement authorities, EPA may at any time invoke its authority under the CAA, including, for example, sections 113, 167, 205, 211 or 213, to enforce the requirements or prohibitions of the state plan, independently of any state enforcement effort. In addition, citizen enforcement under section 304 of the CAA is likewise unaffected by this, or any, state audit privilege or immunity law.

V. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA’s role is to approve state choices, provided

that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a “significant regulatory action” subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this proposed rulemaking, proposing to approve the DC Area base year inventory SIPs for the 2015 ozone NAAQS, does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the State, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental relations, Ozone, Reporting and recordkeeping requirements, Nitrogen dioxide, Volatile organic compounds.

Dated: February 16, 2022.

Diana Esher,
Acting Regional Administrator,
Region III.

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